

- Hayes, F. E., Goodman, S. M., Fox, J. A., Granizo Tamayo, T. & López, N. E. 1990. North American bird migrants in Paraguay. *Condor* 92: 947-960.
- Hayes, F. E. 1995. *Status, distribution and biogeography of the birds of Paraguay*. Mon. Field. Orn. No. 1. American Birding Association, New York.
- Hayes, F. E. & Scharf, P. A. 1995. The birds of Parque Nacional Ybycuí, Paraguay. *Cotinga* 4: 14-19.
- Hilty, S. L. & Brown, W. L. 1986. *A Guide to the Birds of Colombia*. Princeton Univ. Press.
- Howell, S. N. G. & Webb, S. 1995. *A Guide to the Birds of Mexico and Northern Central America*. Oxford Univ. Press.
- Lowen, J. C., Bartrina, L., Clay, R. P. & Tobias, J. A. 1996a. Project YACUTINGA '95: Bird surveys and conservation priorities in eastern Paraguay. *Cotinga* 5: 14-19.
- Lowen, J. C., Bartrina, L., Clay, R. P. & Tobias, J. A. 1996b. *Biological surveys and conservation priorities in eastern Paraguay*. CSB Conservation Publications, Cambridge.
- Lowen, J. C., Mazar Barnett, J., Clay, R. P., Pearman, M. & López Lanús, B. (in press) A reassessment of the status and distribution of birds in Paraguay. *Ararajuba*.
- Madroño N., A. & Esquivel, E. Z. 1995. Reserva Natural del Bosque Mbaracayú: su importancia en la conservación de aves amenazadas, quasi-amenazadas y endémicas del Bosque Atlántico. *Cotinga* 4: 52-57.
- Madroño N., A. & Esquivel, E. Z. (1997) Noteworthy records and range extensions of some birds found at the Mbaracayú Forest Nature Reserve (Reserva Natural del Bosque Mbaracayú), Canindeyú, Paraguay. *Bull. Brit. Orn. Cl.* 117: 166-176.
- Mazar Barnett, J. & Herrera, J. 1996. Primer registro de *Tiaris fuliginosa* (Wied, 1830) para la Argentina. *Hornero* 14: 73-74.
- Parker, T. A., Castillo, U. A., Gell-Mann, M. & Rocha, O. O. 1991. Records of new and unusual birds from northern Bolivia. *Bull. Brit. Orn. Cl.* 111: 120-138.
- Parker, T. A., Stotz, D. F. & Fitzpatrick, J. W. 1996. Ecological and distributional databases. In D. F. Stotz, J. W. Fitzpatrick, T. A. Parker & D. K. Moskovitz. *Neotropical Birds: Ecology and Conservation*. Univ. Chicago Press.
- Pearce-Higgins, J., Thompson, A., Hall, S., Kealey, I. & Kemp, P. 1995. Nottingham University Bolivia Project 1995: a survey of mammals and birds in the Parque Nacional Noel Kempff Mercado. Nottingham, U.K.: unpublished.
- Pearman, M. & Abadie, E. I. (in press) Mesopotamia grasslands and wetlands survey, 1991-1993: conservation of threatened birds and habitat in north-east Argentina.
- Podtiaguín, B. 1944. Catálogo sistemático de las aves de Paraguay. Aumentado por las contribuciones al conocimiento de la ornitología paraguaya. *Rev. Soc. Cient. Parag.* 6(3): 7-120.
- Podtiaguín, B. 1945. Catálogo sistemático de las aves de Paraguay. *Rev. Soc. Cient. Parag.* 6(6): 63-80.
- Ridgely, R. S. 1991. Estancia Itabó, June 1991. Unpublished.
- Ridgely, R. S. & Tudor, G. 1989. *The Birds of South America: the oscine passerines*. Oxford Univ. Press.
- Ridgely, R. S. & Tudor, G. 1994. *The Birds of South America: the suboscine passerines*. Oxford Univ. Press.
- Sibley, C. G. & Monroe, B. L. 1990. *Distribution and Taxonomy of Birds of the World*. Yale Univ. Press.
- Sick, H. 1993. *The Birds of Brazil*. Editora Universidade de Brasilia, Brasilia.
- Stattersfield, A. J., Crosby, M. J., Long, A. J. & Wege, D. C. (1997) Endemic bird areas of the world: priorities for biodiversity conservation. BirdLife International, Cambridge.
- Tobias, J. & Lowen, J. 1996. Strange-tailed Tyrants and White-winged Nightjars. *Birding World* 9: 361-364.
- Varty, N., Bencke, G. A., Bernadini, L. de M., da Cunha, A. S., Dias, E. V., Fontana, C. S., Guadagnin, D. L., Kindel, A., Raymundo, M. M., Richter, M., Rosa, A. O. & Tostes, C. S. 1994. The ecology and conservation of the red-spectacled parrot *Amazona pretrei* in southern Brazil. Unpublished report.
- Whitney, B. M., Fernando Pacheco, J., Isler, P. R. & Isler, M. L. 1995. *Hylopezes nattereri* (Pinto, 1937) is a valid species (Passeriformes: Formicariidae). *Ararajuba* 3: 37-42.
- Willis, E. O. & Oniki, Y. 1993. New and reconfirmed birds from the state of São Paulo, Brazil, with notes on disappearing species. *Bull. Brit. Orn. Cl.* 113: 23-34.

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Appendix

A summary of the location of sites mentioned in the text

Region	Site	Department	Coordinates
Oriente	RVS Yabebryy	Misiones	27°10'S, 57°00'W
	MN Bosque de Arary	Itapúa	27°27'S, 56°48'W
	/Base Aerea		27°25'S, 57°11'W
	/Puerto Turi		27°24'S, 57°14'W
	RNP Ypetí	Caazapá	25°33'S, 55°30'W
	RNP Itabó	Canindeyú	24°20'S, 54°35'W
	PN Caaguazú	Caazapá	26°04'S, 55°45'W
	PN San Rafael	Itapúa	26°25'S, 55°40'W
	RNB Mbaracayú	Canindeyú	24°07'S, 55°23'W
	/Jejui-mí		24°08'S, 55°31'W
	/Lagunita		24°08'S, 55°25'W
	/Aguará Ñu		24°09'S, 55°16'W
	/Carapá waterfall		24°00'S, 55°20'W
	PN Ypacarai	Central/Cordillera	25°15'S, 55°19'W
	RNP Sombrero	Cordillera	25°00'S, 56°38'W
	Estancia Kaa'gua Rory	Caaguazú	24°46'S, 55°26'W
	Bahia de Asunción	Central	25°18'S, 57°40'W
	Estancia Jiménez	Canindeyú	24°13'S, 55°38'W
	PN Cerro Corá	Amambay	22°39'S, 56°00'W
Chaco	RNP Golondrina	Presidente Hayes	24°59'S, 57°43'W
	Puerto Remanso	Presidente Hayes	25°12'S, 57°33'W

On the validity of the Half-collared Sparrow *Arremon semitorquatus* Swainson, 1837

by Marcos A. Raposo & Ricardo Parrini

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Many authors have stressed that it is necessary to review the many existing polytypic species because of the conceptual problems presented by the subspecific rank (Rosen 1978, 1979, Nelson & Platnick 1981, Wiley 1981, Cracraft 1983, 1992, McKittrick & Zink 1988).

The Pectoral Sparrow *Arremon taciturnus* (Hermann, 1783) is a classical example of a problematic taxon. It is a Neotropical undergrowth forest dweller generally treated as consisting of four subspecies: *A. t. nigrirostris* Sclater, 1886, from Peru, Bolivia, and probably northwestern Argentina (Meyer de Schauensee 1982); *A. t. axillaris* Sclater, 1854, from the eastern part of Colombia and adjacent Venezuela; *A. t. taciturnus* ranging from southern Venezuela, the Guyanas and the right bank of the rio Amazonas through the states of Mato Grosso, Goiás, Tocantins, Pará and southward to Minas Gerais and Espírito Santo; and *A. t. semitorquatus* Swainson, 1837 which is restricted to Brazil from Rio de Janeiro to Rio Grande do Sul (Hellmayr 1938, Pinto 1944).

In spite of the well marked differences between the last two taxa their conspecificity was defended by Hellmayr (*op. cit.*) and Pinto (*op. cit.*) on the basis of a supposed intergradation zone, particularly at Serra dos Órgãos, a mountain range in Rio de Janeiro. These authors distinguished *A. t. semitorquatus* from *A. t. taciturnus* by the colour of the lower mandible (yellow in the former and blackish-brown in the latter), the lesser upper wing coverts (nearly the same olive as the back in the former, bright yellow in the latter), and the black pectoral collar (interrupted at the centre of the neck in *A. t. semitorquatus*, complete in the nominate subspecies). The presence of an "intergradation zone" was based on the variation of the two last characters in some specimens from Serra dos Órgãos and in one skin from Ipanema (upland São Paulo).

The purpose of this work is to re-examine the evidence adduced by Hellmayr and Pinto, and to review the taxonomic status of Swainson's form.

Methods

We conducted an analysis of the specimens housed in the Museu Nacional of Rio de Janeiro and Museu de Zoologia da Universidade de São Paulo. A total of 243 skins were examined, 54 corresponding to the diagnosis of *A. t. semitorquatus* and 189 to that of the nominate form. The measurements taken were: bill length (calmen); wing length (chord); and tail length. Some field notes were made and specimens

were collected in Bahia and Rio de Janeiro, mainly in Serra dos Órgãos, the alleged intergradation zone between *A. t. taciturnus* and *A. t. semitorquatus*. The Colombian and Peruvian/Bolivian subspecies were not included in the present comparison since they are widely separated from *A. t. semitorquatus*, our main subject. A good diagnosis of those forms can be found in Hellmayr (1938). The geographical co-ordinates of all the localities mentioned here may be found in Paynter & Traylor (1991) and Vanzolini (1992).

Results

Our analysis produced no evidence to corroborate the conspecificity of *semitorquatus* and *taciturnus*, nor the existence of the intergradation zone mentioned by Hellmayr and Pinto. No individual of *A. t. taciturnus* was found in Rio de Janeiro (the proposed hybridisation zone) where we only found typical *semitorquatus*, which was also recorded northward to northeastern Espírito Santo (Santa Teresa, 19°55'S, 40°36'W and Jatiboca, 20°05'S, 40°55'W) and eastern Minas Gerais (Mariana, 19°30'S, 41°00'W). It is noteworthy that this northward extension was not mentioned by those authors, and that it makes the intergradation zone at the interior of Rio de Janeiro state incomprehensible (see Fig. 1). The apparent allopatry of these two forms and the clear distinction between them, although their ranges abut, indicates that *semitorquatus* should be elevated to species rank.

Diagnosis of A. semitorquatus

The characters presented by Hellmayr and Pinto for the differentiation of *A. semitorquatus* and *A. taciturnus* were found to be constant. *A. semitorquatus* is characterised by the presence of an interrupted black collar, in contrast to the complete one found in adult males of nominate *A. taciturnus*. In *A. semitorquatus*, the bill had a yellow mandible contrasting with a blackish-brown maxilla, and the lesser upper wing coverts are nearly of the same colour as the rest of the dorsal plumage, while *A. taciturnus* has an uniform blackish bill and yolk-yellow lesser upper wing coverts. The sides of the belly in *semitorquatus* are invaded by dark grey, usually not present in *A. taciturnus*. The females of *semitorquatus* have an interrupted collar like that of the males, contrary to the accentuated dimorphism presented by *A. taciturnus*, the females of which do not have the black collar or have this feature reduced to a slight and inconspicuous grey jugular band. In both species, the females generally have a clear suffusion of buff on the ventral area, most pronounced on the throat.

The other species that could be mistaken for *A. semitorquatus* is *Arremon flavirostris* Swainson, 1837, notably the nominate subspecies which, like the former, has bright olive upper parts. The latter species has an orange bill with a black ridge, a white chin and a complete black pectoral band in both sexes. *A. semitorquatus* and *A. taciturnus* both have a black chin-spot and a white superciliary stripe reaching to the base of bill, while *A. flavirostris* and its sister-taxon *A. polionotus*

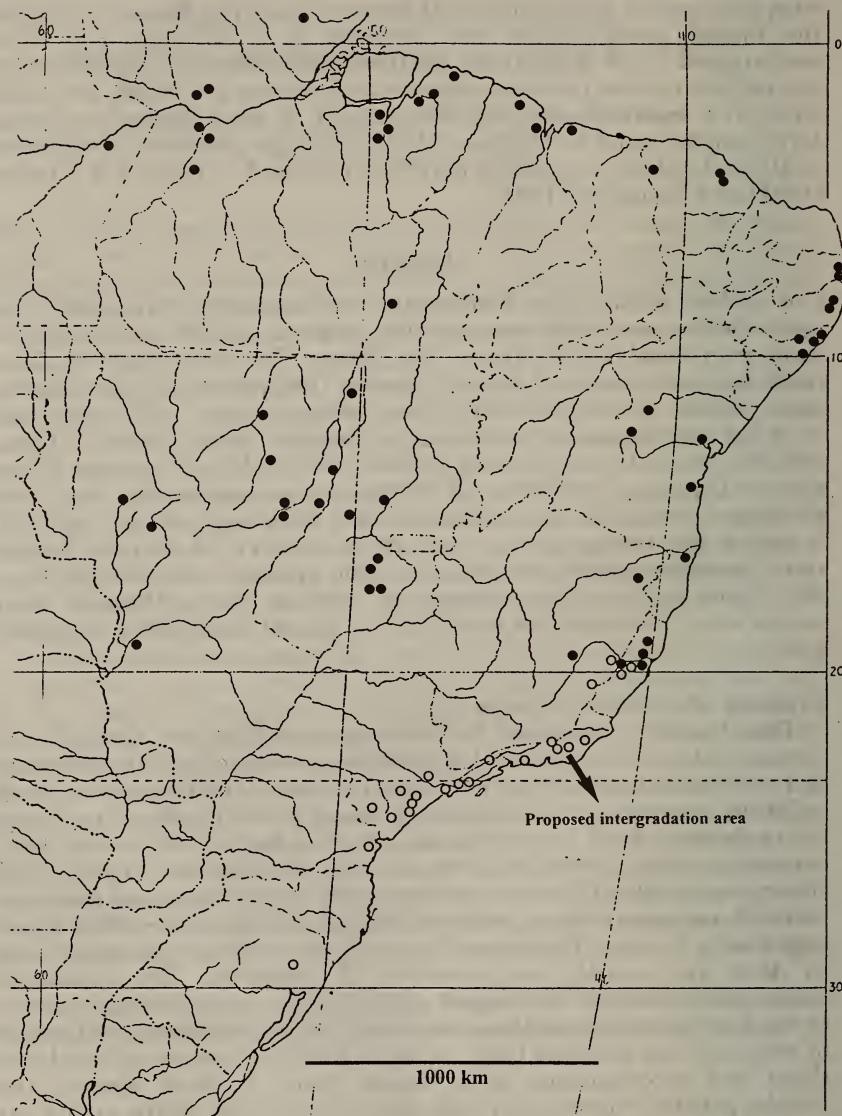


Figure 1. Map showing the distributions of *A. semitorquatus* (○) and *A. taciturnus* (●) in eastern South America after our studies, and the proposed intergradation area of Hellmayr (1938).

Bonaparte, 1851, both occurring in central Brazil, have the white superciliary stripe starting just above the eye (Silva 1991). *A. polionotus* has, moreover, dark grey upper parts. *A. flavirostris dorbignii* Sclater,